DOCUMENT RESUME

ED 201 965 CS 006 056

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TITLE Skills Management Systems: A Direct Descendant of the Mastery Learning Theory?
PUB DATE Apr 81
NOTE 14p.: Paper presented at the Annual Meeting of the American Educational Research Association (Los Angeles, CA, April 13-17, 1981).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Individualized Reading; *Mastery Learning; *Program Evaluation; *Reading Instruction; Reading Programs; Skill Development
IDENTIFIERS *Blooms Mastery Teaching Strategy; *Skills Management System

ABSTRACT

Authors of skills management systems may have misinterpreted and misapplied Benjamin Bloom's theory of mastery learning in developing their systems for teaching reading. Skills management procedures are inconsistent with Bloom's theory in the areas of management, learning tasks, skills hierarchy, and instructional methods. In addition, the four elements in teaching a skill--cues, reinforcement, participation, and feedback/correctives--are not systematically used in any management system that has been developed thus far. New instructional programs are needed that conform more closely to the mastery learning theoretical model, emphasizing the individual learner's style and pace of knowledge acquisition, if a true test of Bloom's theory is to be applied to the teaching of reading. (AEA)

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Skills Management Systems: A Direct Descendant of the Mastery Learning Theory?

Running Head: Skills Management Systems

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The skills management approach to teaching reading might be considered one of the major curricular innovations of the past decade. Influenced by the increasing demand for accountability occurring in the 1960's, these programs proposed alternative organizational patterns which geared the curriculum to the individual needs, interests, and abilities of each child.

Programs in skills management, such as High Intensity Learning Systems, Wisconsin Design, Fountain Valley, and Prime, are based on the mastery learning theory--a concept referring to a precisely defined curriculum structured in small sequential learning steps (Bloom, 1968). These systems have operationalized the theory by including the following components: a list of objectives, a set of tests, the notion of mastery, a variety of instructional materials, and a method of recording student progress (Johnson and Pearson, 1975).

In recent years, however, these procedures have become subjected to an increasing amount of criticism from members of the research community. Reading authorities (Feeley, 1975; Johnson, 1977; Klein, 1975) have questioned the advis-

ability of utilizing management systems on the grounds that they fragment the reading process, encourage a behavioristic, reaction-oriented view of reading, and use an arbitrary hierarchy of skills. Goodman (1974), for example, comments:

> Any attempt to reduce the complexity of language in reading by sorting out letters or word parts or words increases the complexity of the learning since it substitutes abstract language for meaningful language (p. 824).

Do these criticisms imply that the mastery learning theory is inappropriate within the context of reading instruction, or could it be that the present application of the theory has been misinterpreted by the authors of the skills management systems? These questions suggest that mastery learning be examined not only in terms of its theoretical basis, but in connection with the specific subject matter being taught. By reviewing the theory, it might be possible to determine what modifications, if any, are necessary to make the skills management systems more consistent, in theory and practice, with mastery learning and the overall reading process.

Mastery Learning

Mastery learning theorizes that almost every child--perhaps over 90%--can master what the schools have to teach if provided with sufficient learning time and the appropriate

types of instruction (Bloom, 1968). Based on Carroll's conceptual paradigm (1963), the theory defines aptitude as the amount of time required by the learner to attain mastery of the task. Thus, if instruction fits the characteristics and needs of each learner, the correlation between aptitude and achievement should approach zero.

Two assumptions involving the school curriculum underlie this model: 1) that all subjects are hierarchical in nature, and 2) that school learning can be divided into separate components, the sum of which define competence in a given area. Subjects in which mastery learning strategies are considered to be the most effective tend to be closed, emphasizing convergent thinking skills.

To ensure that all students succeed in what the schools have to teach, Bloom delineates four important elements to be included in each learning task: cues, or directions provided to the learner, participation, reinforcement and feedback/correctives. These four characteristics, together, define the quality of instruction. The components alone are not new and,in fact, have been utilized in the classroom curriculum for years. The strength and uniqueness of this definition lies in using them in combination to provide students with a highly organized, highly systematized method of instruction

for the majority of school subjects.

Mastery Learning and the Skills Management Systems

Two major areas of distinction can be analyzed when examining the skills management systems in light of their direct linkage to the mastery learning theory: one involves the basic operating, or implementation, procedures of the program; the other deals with the specific methods of instruction used in teaching reading skills.

Operating Procedures

The skills management systems have operationalized the theory of mastery learning by developing a closed curriculum which includes hierarchies of skills and definitions of behaviors. In most programs, the reading curriculum has been divided into major component areas--phonics, comprehension, and study skills-- then subdivided into small units of instruction in the form of objectives. Several management systems, for example, report more than 350 discrete objectives. Learning to read, then, is equated with mastering these separate, isolated skills.

Students involved in these programs generally begin with a preliminary test which defines their overall proficiency in reading. From this general placement, they are given more specific, diagnostic tests designed to measure strengths and

weaknesses within a component area, such as comprehension. Testing continues until the student fails to achieve mastery, usually around 80-85%. At this point, students are given a 'prescription' of specific instructional materials coded to teach the particular skill needed. Post tests are administered after the materials are completed to see if the skill has been mastered.

Are these procedures consistent with the mastery learning theory? On the basis of three important criteria, probably not:

1. Management: Bloom states that if the management of learning is effective, it is likely that the teacher will need to give relatively little attention to the management of the learners (1976, p. 112). The ideal instructional format is the tutoring session, where the tutor can teach, reinforce, and correct learning in an intimate, individualized setting. This was the original intent of the management systems as well--to increase individualization, while reducing variation in achievement and rate of learning. However, in the process of applying the procedures to the school curriculum, a bureaucratic-like structure emerged, making this original goal untenable.

2. Learning tasks: It might be argued that learning by fractionating the reading act is not what Bloom had originally intended. To the contrary, he suggests that the basic unit of instruction should be a learning task, defined as a chapter in a book, or a topic in a curriculum (p.22). Such a unit should have an independent existence, large enough to form a separable whole or gestalt. Unfortunately, objectives as they are now defined in most management systems, tend to be atomistic in nature, thus ignoring the existence of an underlying language structure.

3. Hierarchy of skills: Bloom states that teaching a subject according to a strict hierarchical sequence might not be appropriate under some circumstances (1976, pp.34-35). Learning tasks should be grouped according to the logic of the relationship among them; therefore, a variety of organizational strategies are possible.

Management systems, however, have developed a complex hierarchy of skills, each of which require mastery before the next skill is introduced. These sequences in reading, unfortunately, have not been empirically determined. In fact, most hierarchies are subject to change according to the particular basal or instructional program being used

in the school. As yet, reading research is inconclusive in regard to an unalterable hierarchy of skills.

The skills management systems and the mastery learning theory, then, appear to differ on several key issues regarding the implementation of the instructional program. How these differences affect teaching strategies will be determined by an analysis of the method of instruction.

Method of Instruction

Interestingly enough, while the organizational strategies of the management systems are considerably elaborate, there are no specific guidelines regarding the methods of instruction. In fact, many of the programs appear to be rather eclectic, with little bits and pieces being culled from various basal readers. In most cases, once the testing procedures have been completed, the students are either handed a workbook, kit, or program which serves as their instructional program. The philosophy behind this approach is that students learn through interaction with the curriculum materials rather than the teacher or other students.

This is a complete departure from Bloom's definition of the quality of instruction. Instead, he is calling for an intimate interaction between teacher and student within the

confines of group or classroom instruction. Each of the four characteristics of learning serve to enhance and personalize learning for the individual:

1. Cues: Bloom describes cues as being more than motivational statements to the students; they are previews of the skills to be learned and the processes to be used. Variety of forms (verbal, kinesthetic, and visual) and instructional methods are essential to ensure that all students receive the particular cues needed for learning a skill. Meaningfulness and salience to the learner are two elements which determine the strength of a given cue (1976, p.116).

2. Reinforcement: Learning is effective, according to Bloom, only when it is accompanied by reinforcement during or after each part of the learning process (1976, p.119). However, again, it must be individualized to account for the specific types and amounts needed at various stages.

3. Participation: Active learning, Bloom feels, is the best predictor of the overall quality of instruction. However, participation is not always observable. It may be that children at a young age are most successful when practicing a skill overtly, while covert participation is most

appropriate for the older learner.

4. Feedback/Correctives: The management systems have been most successful in developing feedback/corrective procedures, where students are evaluated and alternative programs of instruction are prescribed when needed. But, once again, it is questionable whether the systems provide corrective materials that truly account for a particular learner and his style of learning or on a previously designed, a priori, organizational scheme. In one case, learning is an active, involving, personalizing experience for both teachers and students; in the other case, it becomes passive and highly routinized.

Cues, reinforcement, participation, and feedback/correctives--the four elements in teaching a skill--are not systemmatically used in any management system developed thus far. It is perhaps this omission which has transformed a conceptually-rich theory into a stark behavioristic approach.

Conclusions

Clearly, then, there are some basic disparities between the skills management systems and the mastery learning theory. Perhaps the greatest point of differentiation is that the

former tends to be an organizational approach; the latter, a teaching approach. Yet, can these differences be resolved to renovate a very creative, but flawed, instructional program?

It is most unlikely at this point. It could be that there are just too many elements in need of change: the hierarchy of skills, the absence of a method of instruction, and the mastery of fragmented objectives among others. In addition, the management systems, as currently conceived, appear to be inconsistent with the reading process itself, which recognizes the interdependence of phonological, morphological and syntactic components of language.

After examining these reservations, can educators conclude that the mastery learning theory is an inappropriate technique to use in reading instruction? The analysis reviewed here suggests not. New instructional programs which conform more closely to the theoretical model, emphasizing the individual's style and pace of knowledge acquisition are needed before a true test of the theory, in terms of reading, can be determined. The aim of teaching 'every child everything the schools have to teach' is a truly admirable goal; unfortunately at this moment, there does not appear to be a sufficient practical model in reading to test its effectiveness.

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